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VARIABILITY OF COTTON YIELDS
By Counties, in the United States

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This is the third in a series of reports on the variability of county yields, by crops, over a relatively long period of time. The previous reports dealt with wheat and corn.^{1/} The variability index used in each report has been the coefficient of variation.^{2/}

In general, the average yields and coefficients of variation, shown by counties in tables 2-17, are based on county yields per planted acre for 1929-50. Although no adjustment for trend was made in the data, a procedure for estimating the effect of trend on the variability of yields is included on pages 2 and 4.^{3/} The calculations were made for all counties in which more than 2,000 acres of cotton were harvested in 1949, as shown by census reports, except for a few counties for which five or more years of yields were missing during 1929-50.

Indices of variability in yields (coefficients of variation) provide an indication of the relative yield risk among counties. For counties in which cotton is a major crop, these indices should be useful in appraising land values, in studies of crop insurance, and as background information for studies in which yield uncertainty is an important consideration. Potential users of this information include lending agencies and research workers in crop insurance and farm management who are concerned with the measurement of risk costs.

The relative nature of the coefficient of variation as an index of yield risk is illustrated by the following example. Suppose that the average yield for each of two counties is 300 pounds; but that the coefficient of variation is 40 percent in county A and 20 percent in county B. According to normal distribution logic, two-thirds of the annual yields

^{1/} "Variability of Wheat Yields, by Counties, in the United States," and "Variability of Corn Yields, by Counties, in the United States."

^{2/} Standard deviation of annual county yields divided by the average county yield for the period.

^{3/} Attention is also directed to the average yields (1938-46) that are shown, by counties, in United States Department of Agriculture Technical Bulletin 1042. The county coefficients of variation shown in that report are based on deviations from trend (standard error of estimate of trend values expressed as a percentage of average yield). The slope of the trend values is also shown, by counties, in that bulletin.

for county A might be expected to fall between 50 and 140 percent of the average, or between 180 and 420 pounds - a range of 240 pounds. With the same average yield, but with a coefficient of variation of only 20 percent, two-thirds of the annual yields for county B might be expected to fall between 80 and 120 percent of average, or between 240 and 360 pounds - a range of only 120 pounds. Therefore, with the same average yield (300 pounds), the range within which two-thirds of the annual yields might be expected to fall is twice as great for county A as for county B.

Regional Differences in Yield Risk

General differences in the degree of yield risk are shown in figure 1.⁴ The greatest relative variability in county yields has occurred in Texas and Oklahoma. The variability decreases - in general - from west to east. In areas in which all acreage of cotton is ordinarily irrigated, the variability is less than in areas in which the proportion of the total acreage of cotton irrigated varies materially from year to year and is much less than in areas where cotton is grown without irrigation.

The upward trend in yields has been more pronounced in the East than in the West. Increased use of fertilizer, better selection of land, and wider use of improved varieties have contributed toward these increased yields.

In the Carolinas, yields apparently have been somewhat more variable in counties in the Coastal Plain than in counties in the Piedmont area. In South Carolina, part of this greater variability has apparently been due to the stronger upward trends in annual yields and the lower average yields that have occurred in the Coastal Plain than in the Piedmont area. In North Carolina, the greater variability in yields in Coastal Plain counties has occurred despite the stronger upward trends in annual yields and the higher average yields in the interior counties.

Data in the tables included in this report may be used to make comparisons between counties.

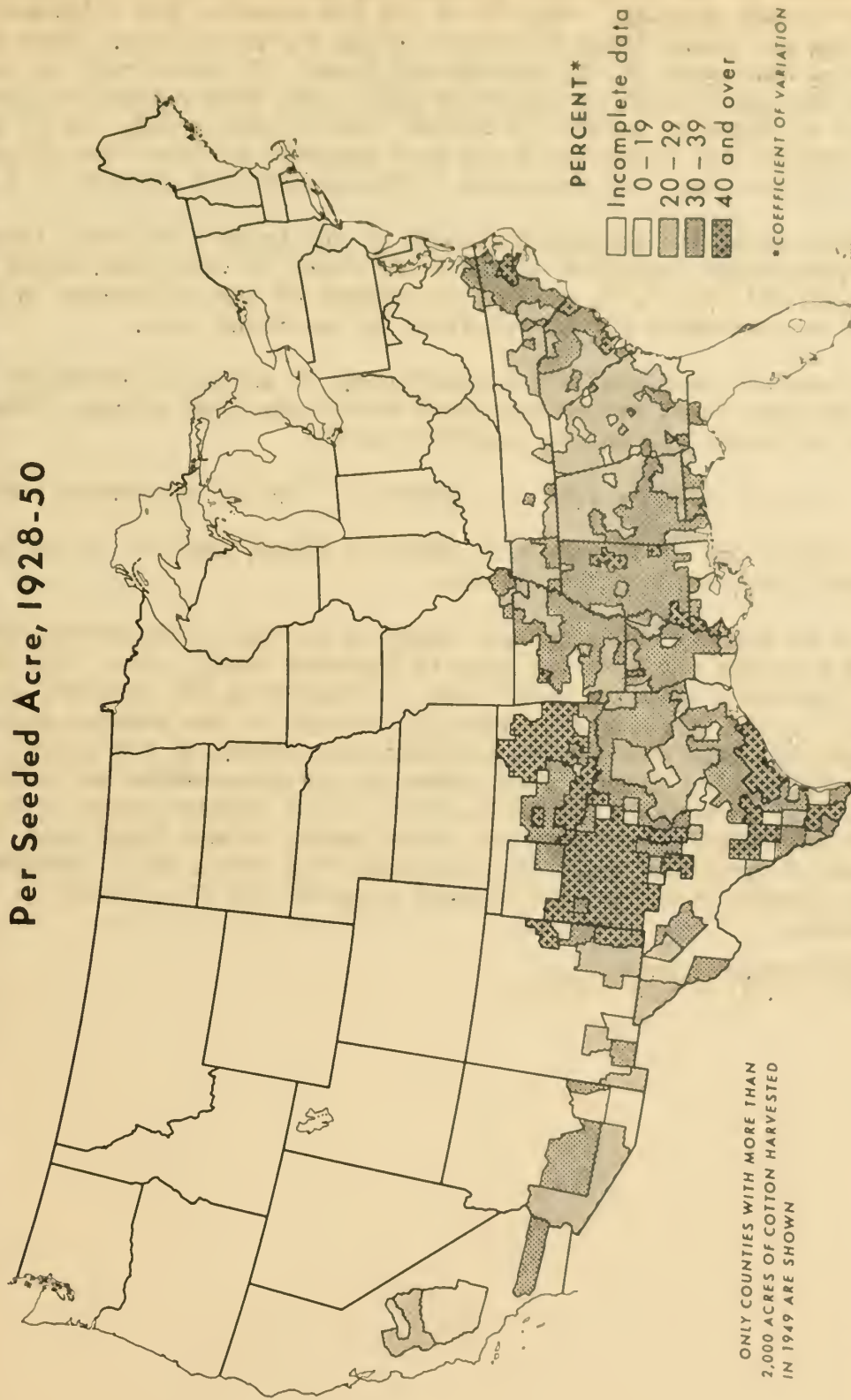
Estimated Reduction in Coefficient of Variation if Based Upon Deviations from Trend Values Rather than Upon Deviations from Average Yield

If a substantial trend in annual county yields existed, a coefficient of variation based upon (A), the squared deviations of the annual yields from the average yield, would be substantially higher than one based on (B), the squared deviations from trend. As previously indicated, method (A) was used to compute the coefficients of variation shown in the appendix tables of this report. However, for purposes of comparison, computations based on method (B) were also made for every fifth county. The results are summarized in table 1.

⁴/ Counties that are shaded alike had coefficients of variation that fell within the same coefficient-of-variation interval.

VARIABILITY OF COUNTY COTTON YIELDS

Per Seeded Acre, 1928-50



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FIGURE 1

The steeper the slope of the trend line through annual yields, the greater would be the difference between the coefficients of variation computed by the two methods. Only 14 of the 154 counties had a downward rather than an upward trend in annual yields during 1929-50. Nine of these 14 counties were west of the Mississippi River. In about half of the 154 counties the coefficient of variation would have been reduced by less than 5 percent if based on method (B) rather than on method (A). In 72 percent of the counties the reduction would have amounted to less than 10 percent. For all 154 counties, the reduction in the coefficient averaged 7.6 percent.

The correlation between the slope of the trend line (used in method B) and the percentage reduction in the coefficient of variation, using (B) rather than (A), was 0.89, so that 79 percent of the difference in the percentages was accounted for by the slope of the trend line.

Those who have need for a coefficient of variation based upon deviations from trend rather than upon deviations from average yield, will find the following regression equation useful:

$$P_r = 2.79S - 1.08 \dots \text{where "P"}_r \text{ is the percentage reduction}$$

in the coefficient of variation if based on trend, and "S" is the slope of the trend line through annual yields.

As an example, the (upward) trend in cotton yields during 1929-50 averaged 5 pounds per acre per year in Cherokee County, Ala. The above formula indicates that the coefficient of variation (22 percent) shown in table 2 would be reduced by about 13 percent if the squared deviations from trend had been used in the calculations instead of the squared deviations from average yield. Such a coefficient of variation would be estimated, therefore, at 19.1 percent in comparison with the 22 percent shown in table 2.5/ Using actual county yield data for these years, it was found that the coefficient of variation based on deviations from trend was 19 percent, which compares closely with the 19.1 percent computed for this county by use of the formula.

$$5/ 22(1 - .13) = 19.1 \text{ percent.}$$

Table 1.- Relationship between (1) slope of trend line through annual county yields and (2) percentage reduction in coefficient of variation if based on (A) deviations from trend values, rather than (B) deviations from average county yield

Slope of trend line through annual yields	Counties	Percentage reduction in coefficient of variation if based on (A) deviations from trend rather than upon (B) deviations from average yield					
		Less than 5 percent	5-9.9 percent	10-14.9 percent	15-24.9 percent	25 per- cent or over	Average percent
	Number	Number of counties	Number of counties	Number of counties	Number of counties	Number of counties	Percent
<u>Upward trend</u>							
7 pounds or over	13				5	8	27.9
6 - 6.9 pounds	8			3	3	2	18.8
5 - 5.9 do.	9			7	2		12.6
4 - 4.9 do.	18	1	9	6	2		10.0
3 - 3.9 do.	18	5	10	1	2		7.9
2 - 2.9 do.	29	14	13	2			5.0
1 - 1.9 do.	26	24	2				2.5
Less than 1 pound	19	19					0.5
<u>Downward trend</u>							
Less than 1 pound	12	12					0.3
1 - 1.9 pounds	2	2					1.6
Total	154	77	34	19	14	10	7.6
Percent of counties	100.0	50.0	22.1	12.3	9.1	6.5	XX
Average percentage reduction	XX	1.7	7.3	11.4	19.1	31.3	7.6

ALABAMA

Table 2.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties

County	Average yield	Coefficient of variation	Cotton acreage har- vested as percentage of cropland harvested
	<u>Pounds</u>	<u>Percent</u>	<u>1/ Percent</u>
Autauga	207.7	30	25
Baldwin	226.3	31	3
Barbour	163.7	30	13
Bibb	222.6	31	27
Blount	292.4	26	39
Bullock	139.9	34	24
Butler	197.0	34	22
Calhoun	221.1	21	30
Chambers	194.8	28	33
Cherokee	287.9	22	47
Chilton	233.8	26	24
Choctaw	170.5	37	22
Clarke	180.8	36	15
Clay	208.6	18	20
Cleburne	212.4	20	27
Coffee	205.1	27	18
Colbert	278.8	29	55
Conecuh	204.1	30	22
Coosa	179.9	28	18
Covington	202.6	29	17
Crenshaw	192.5	28	21
Cullman	337.8	26	47
Dale	189.0	27	9
Dallas	192.1	39	35
De Kalb	345.8	27	37
Elmore	228.4	20	36
Escambia	232.2	27	22
Etowah	280.9	26	38
Fayette	228.0	31	30
Franklin	252.0	25	41
Geneva	230.4	29	20
Greene	166.6	26	34
Hale	209.0	32	34
Henry	213.0	24	15
Houston	235.3	22	21
Jackson	283.1	26	34
Jefferson	246.6	26	22
Lamar	232.6	28	38
Lauderdale	251.3	22	48

(Continued)

ALABAMA

Table 2.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties - continued

County	Average yield	Coefficient of variation	Cotton acreage har- vested as percentage of cropland harvested <u>1/</u>
	<u>Pounds</u>	<u>Percent</u>	<u>Percent</u>
Lawrence	284.5	27	53
Lee	178.2	26	30
Limestone	285.0	25	58
Lowndes	168.5	34	30
Macon	186.0	26	40
Madison	282.3	24	55
Marengo	174.5	31	32
Marion	241.0	27	39
Marshall	351.7	23	50
Mobile	235.1	29	8
Monroe	217.6	30	32
Montgomery	177.9	33	24
Morgan	298.3	23	47
Perry	166.5	32	26
Pickens	220.3	34	38
Pike	180.1	28	18
Randolph	228.9	20	28
Russell	152.6	28	31
St. Clair	228.0	20	30
Shelby	225.7	25	29
Sumter	166.8	38	28
Talladega	209.1	24	35
Tallapoosa	196.0	23	30
Tuscaloosa	228.7	29	36
Walker	238.9	30	28
Washington	201.5	29	13
Wilcox	176.0	34	31
Winston	267.6	27	40

1/ Percentage based on census data for 1949.

ARIZONA

Table 3.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties

County ^{1/}	Average yield	Coefficient of variation	Cotton acreage har- vested as percentage of cropland harvested ^{2/}
	Pounds	Percent	Percent
Graham	534.9	17	72
Greenlee	423.0	31	55
Maricopa	459.8	32	32
Pima ^{3/}	551.0	29	75
Pinal	423.8	34	75
Yuma	397.7	23	7

^{1/} Only counties with more than 2,000 acres of cotton harvested in 1949 are shown. Less than this acreage was harvested in all unlisted counties except Cochise and Santa Cruz, which are not shown because 5 or more years of yields were missing.

^{2/} Percentage based on census data for 1949.

^{3/} Average yield and coefficient of variation based on data for periods 1928-31 and 1933-50.

ARKANSAS

Table 4.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties

County 1/	Average yield	Coefficient of variation	Cotton acreage harvested as percentage of cropland harvested
	Pounds	Percent	2/ Percent
Arkansas	227.5	33	8
Ashley	270.4	33	51
Bradley	183.7	29	41
Calhoun	169.9	28	52
Chicot	271.6	33	59
Clark	190.7	34	34
Clay	319.5	26	41
Cleburne	174.4	35	32
Cleveland	166.1	30	51
Columbia	162.0	22	47
Conway	175.1	35	38
Craighead	355.6	23	56
Crittenden	392.9	32	69
Cross	344.1	34	44
Dallas	173.3	30	40
Desha	293.8	31	58
Drew	216.9	35	45
Faulkner	189.5	31	47
Fulton	183.7	37	11
Grant	168.7	29	27
Greene	319.7	27	44
Hempstead	171.7	29	42
Hot Spring	176.4	32	19
Howard	151.7	28	22
Independence	210.5	31	25
Izard	180.6	38	28
Jackson	245.0	27	57
Jefferson	297.3	33	72
Johnson	170.8	42	5
Lafayette	204.7	28	68
Lawrence	248.9	29	41
Lee	291.6	30	61
Lincoln	252.9	32	65
Little River	167.4	27	37
Logan	160.8	37	10
Lonoke	258.4	30	53
Miller	196.0	27	60
Mississippi	436.4	25	67
Monroe	258.2	34	58
Nevada	157.1	26	43

(Continued)

ARKANSAS

Table 4.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties - continued

County ^{1/}	Average yield	Coefficient of variation	Cotton acreage harvested as percentage of cropland harvested ^{2/}
	Pounds	Percent	Percent
Ouachita	158.4	29	38
Perry	163.3	36	19
Phillips	300.6	31	64
Pike	134.7	31	16
Poinsett	409.0	25	56
Pope	158.5	35	21
Prairie	235.4	35	16
Pulaski	260.8	30	53
Randolph	252.4	31	35
St. Francis	338.7	31	64
Sevier	138.8	30	16
Sharp	182.3	37	32
Union	169.0	30	34
Van Buren	152.7	39	21
White	198.9	29	46
Woodruff	264.9	27	52
Yell	183.4	31	25

^{1/} Only counties with more than 2,000 acres of cotton harvested in 1949 are shown.

^{2/} Percentage based on census data for 1949.

CALIFORNIA

Table 5.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties

County ^{1/}	Average yield	Coefficient of variation	Cotton acreage harvested as percentage of cropland harvested
	<u>Pounds</u>	<u>Percent</u>	^{2/} <u>Percent</u>
Fresno	567.0	20	29
Kern	652.8	15	50
Kings	574.4	15	36
Madera	495.1	17	30
Merced	440.6	25	14
Riverside	367.2	30	3
Tulare	558.4	14	37

^{1/} Only counties with more than 2,000 acres of cotton harvested in 1949 are shown.

^{2/} Percentage based on census data for 1949.

FLORIDA

Table 6.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties

County ^{1/}	Average yield	Coefficient of variation	Cotton acreage harvested as percentage of cropland harvested
	<u>Pounds</u>	<u>Percent</u>	^{2/} <u>Percent</u>
Escambia	200.1	32	12
Holmes	179.0	31	15
Jackson	170.9	27	6
Jefferson	111.8	32	4
Madison	130.9	31	6
Okaloosa	162.9	28	14
Santa Rosa	184.6	32	16
Walton	154.4	30	11

^{1/} Only counties with more than 2,000 acres of cotton harvested in 1949 are shown.

^{2/} Percentage based on census data for 1949.

GEORGIA

Table 7.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties

County 1/	Average yield	Coefficient of variation	Cotton acreage harvested as percentage of cropland harvested 2/
	Pounds	Percent	Percent
Appling	201.9	28	18
Atkinson	174.5	37	9
Bacon	205.6	28	14
Baker	161.2	34	5
Baldwin	190.6	25	16
Banks	225.0	25	28
Barrow	258.7	17	36
Bartow	257.5	22	51
Ben Hill	206.1	20	18
Berrien	208.0	30	7
Bibb	206.7	25	11
Bleckley	214.0	30	24
Brooks	210.4	27	12
Bulloch	232.1	24	17
Burke	226.0	24	37
Butts	238.0	24	31
Calhoun	215.1	22	9
Candler	211.1	25	24
Carroll	248.7	21	31
Catoosa	250.5	26	18
Chattooga	258.4	26	38
Cherokee	230.9	26	21
Clarke	231.4	26	25
Clay	208.1	26	9
Clayton	201.4	23	17
Cobb	224.7	25	20
Coffee	202.9	33	13
Colquitt	249.4	24	18
Columbia	184.5	30	23
Cook	221.8	29	11
Coweta	229.1	19	26
Crawford	148.9	30	11
Crisp	229.3	20	20
Decatur	155.4	37	3
Dodge	200.2	25	24
Dooly	222.0	20	26
Dougherty	175.0	24	6
Douglas	221.0	22	22
Early	210.5	25	15

(Continued)

GEORGIA

Table 7.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties - continued

County ^{1/}	Average yield	Coefficient of variation	Cotton acreage harvested as percentage of cropland harvested
	Pounds	Percent	^{2/} Percent
Effingham	194.9	28	11
Elbert	210.4	27	33
Emanuel	186.0	27	28
Evans	210.6	26	13
Fayette	241.0	21	32
Floyd	238.3	21	38
Forsyth	242.5	25	28
Franklin	240.3	22	33
Fulton	233.7	20	21
Glascock	218.0	26	35
Gordon	281.9	21	46
Grady	188.4	24	4
Greene	195.8	22	24
Gwinnett	228.1	16	60
Hall	215.8	23	23
Hancock	199.1	23	34
Haralson	253.8	23	32
Harris	179.7	26	17
Hart	257.4	27	36
Heard	210.0	19	27
Henry	245.6	24	34
Houston	189.0	24	13
Irwin	230.9	23	17
Jackson	218.5	17	37
Jasper	237.6	24	29
Jeff Davis	199.4	30	14
Jefferson	222.6	24	31
Jenkins	227.0	25	32
Johnson	213.1	26	38
Lamar	205.3	24	20
Laurens	211.8	25	31
Lee	186.2	26	6
Lincoln	192.4	22	25
Lowndes	204.0	29	6
McDuffie	227.3	24	36
Macon	199.2	27	21
Madison	253.4	22	35
Marion	165.2	29	18
Meriwether	209.5	23	32
Miller	192.0	29	6

(Continued)

GEORGIA

Table 7.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties - continued

County 1/	Average yield	Coefficient of variation	Cotton acreage harvested as percentage of cropland harvested 2/
	Pounds	Percent	Percent
Mitchell	207.0	27	9
Monroe	185.6	28	17
Montgomery	187.0	26	19
Morgan	258.3	20	49
Murray	256.8	26	31
Newton	256.0	21	32
Oconee	244.9	21	39
Oglethorpe	222.0	24	30
Paulding	246.9	24	35
Peach	223.9	25	7
Pickens	207.0	27	27
Pierce	202.5	26	9
Pike	221.8	23	29
Polk	264.0	25	46
Pulaski	209.6	24	29
Putnam	217.0	21	22
Randolph	202.8	25	9
Richmond	219.2	21	24
Rockdale	240.0	24	31
Schley	194.4	27	24
Screven	232.4	27	31
Seminole	202.7	26	11
Spalding	227.4	21	17
Stewart	171.4	31	9
Sumter	228.2	22	16
Talbot	149.9	24	16
Taliaferro	171.9	25	30
Tattnall	203.2	24	12
Taylor	203.3	27	23
Telfair	187.3	29	16
Terrell	259.4	22	17
Thomas	206.0	28	6
Tift	242.8	22	12
Toombs	200.4	25	25
Treutlen	187.1	28	23
Troup	163.0	23	15
Turner	222.3	23	16
Twiggs	158.3	28	20
Upson	173.6	29	11

(Continued)

GEORGIA

Table 7.- Average yield and coefficient of variation of annual yields, 1926-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties - continued

County 1/	Average yield	Coefficient of variation	Cotton acreage harvested as percentage of cropland harvested
	<u>Pounds</u>	<u>Percent</u>	<u>2/</u> <u>Percent</u>
Walker	272.2	23	21
Walton	278.6	20	49
Warren	237.2	23	43
Washington	216.1	23	29
Wayne	213.1	29	19
Webster	159.4	31	6
Wheeler	189.9	33	15
Whitfield	252.4	21	22
Wilcox	205.1	20	25
Wilkes	188.0	19	28
Wilkinson	168.2	28	14
Worth	222.6	24	18

1/ Only counties with more than 2,000 acres of cotton harvested in 1949 are shown.

2/ Percentage based on census data for 1949.

LOUISIANA

Table 8.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by parishes

Parish 1/	Average yield	Coefficient of variation	Cotton acreage harvested as percentage of cropland harvested 2/
	Pounds	Percent	Percent
Acadia	269.6	34	13
Avoyelles	296.6	38	4
Bienville	147.6	35	38
Bossier	248.4	31	59
Caddo	268.6	29	65
Caldwell	266.5	32	47
Catahoula	276.4	35	51
Claiborne	155.7	27	46
Concordia	309.3	39	52
De Soto	156.0	37	49
East Carroll	335.5	32	57
East Feliciana	174.8	39	17
Evangeline	260.4	34	24
Franklin	274.3	27	62
Grant	234.9	39	32
Iberia	200.2	38	4
Jackson	155.4	32	23
Lafayette	254.5	34	28
Lincoln	154.0	30	39
Madison	318.5	35	46
Morehouse	298.8	34	56
Natchitoches	255.1	33	54
Ouachita	266.3	30	52
Pointe Coupee	289.0	42	25
Rapides	319.6	39	39
Red River	212.1	34	50
Richland	269.4	29	65
Sabine	167.4	35	30
St. Helena	162.4	36	17
St. Landry	264.9	39	31
St. Martin	246.6	45	18
Tensas	334.0	27	46
Union	171.6	29	36
Vermillion	220.6	29	6
Vernon	168.6	34	16
Washington	212.9	36	20
Webster	160.3	40	40
West Carroll	286.7	26	51
West Feliciana	160.8	42	9
Winn	165.1	34	22

1/ Only parishes with more than 2,000 acres of cotton harvested in 1949 are shown.

2/ Percentage based on census data for 1949.

MISSISSIPPI

Table 9.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties

County <u>1/</u>	Average yield	Coefficient of variation	Cotton acreage har- vested as percentage of cropland harvested <u>2/</u>
	Pounds	Percent	Percent
Adams	200.6	42	22
Alcorn	254.3	30	41
Amite	199.5	39	30
Attala	205.6	35	37
Benton	243.4	28	39
Bolivar	340.2	29	67
Calhoun	232.6	39	30
Carroll	211.0	34	38
Chickasaw	214.8	42	32
Choctaw	190.9	43	27
Claiborne	209.6	38	26
Clarke	202.5	40	20
Clay	180.9	44	26
Coahoma	368.0	30	74
Copiah	192.8	35	26
Covington	231.7	36	39
De Soto	287.4	30	52
Franklin	182.4	41	16
Grenada	224.8	36	42
Hinds	219.3	36	43
Holmes	271.4	28	47
Humphreys	326.9	30	83
Issaquena	278.3	33	54
Itawamba	225.2	36	37
Jasper	214.8	37	26
Jefferson	209.6	39	27
Jefferson Davis	240.3	39	42
Jones	239.0	31	26
Kemper	179.3	24	33
Lafayette	227.4	33	42
Lamar	221.6	36	18
Lauderdale	191.8	39	25
Lawrence	232.0	37	35
Leake	232.9	34	43
Lee	246.0	34	43
Leflore	351.9	30	58
Lincoln	197.5	37	26
Lowndes	199.2	37	31
Madison	222.0	34	46

(Continued)

MISSISSIPPI

Table 9.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties - continued

County ^{1/}	Average yield	Coefficient of variation	Cotton acreage harvested as percentage of cropland harvested
	Pounds	Percent	^{2/} Percent
Marion	225.7	36	31
Marshall	227.4	32	50
Monroe	221.6	38	39
Montgomery	200.8	39	35
Neshoba	220.8	36	33
Newton	216.2	34	27
Noxubee	188.4	38	32
Oktibbeha	158.0	47	19
Panola	255.0	33	48
Perry ^{3/}	195.7	35	9
Pike	199.8	38	26
Pontotoc	231.4	32	41
Prentiss	248.4	36	42
Quitman	342.9	31	74
Rankin	222.6	35	32
Scott	234.0	35	34
Sharkey	345.0	31	63
Simpson	233.4	34	39
Smith	249.6	36	33
Sunflower	336.9	30	68
Tallahatchie	301.8	35	59
Tate	281.6	33	50
Tippah	236.4	30	43
Tishomingo	239.0	30	45
Tunica	370.5	35	61
Union	241.0	32	41
Walthall	233.5	35	35
Warren	250.2	37	28
Washington	355.8	28	66
Wayne	206.5	31	24
Webster	216.4	38	34
Wilkinson	187.0	45	19
Winston	210.6	40	34
Yalobusha	215.5	38	34
Yazoo	269.2	32	43

^{1/} Only counties with more than 2,000 acres of cotton harvested in 1949 are shown.

^{2/} Percentage based on census data for 1949.

^{3/} Average yield and coefficient of variation based on data for 1928-48.

MISSOURI

Table IQ - Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties

County ^{1/}	Average yield	Coefficient of variation	Cotton acreage har- vested as percentage of cropland harvested ^{2/}
	<u>Pounds</u>	<u>Percent</u>	<u>Percent</u>
Butler	301.2	24	27
Dunklin	371.2	26	59
Mississippi	405.3	33	26
New Madrid	366.3	30	47
Pemiscot	405.0	25	66
Ripley ^{3/}	229.9	34	13
Scott	310.8	33	17
Stoddard	324.2	31	24

^{1/} Only counties with more than 2,000 acres of cotton harvested in 1949 are shown.

^{2/} Percentage based on census data for 1949.

^{3/} Average yield and coefficient of variation based on data for 1928-48.

NEW MEXICO

Table 11.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties

County <u>1/</u>	Average yield	Coefficient of variation	Cotton acreage har- vested as percentage of cropland harvested <u>2/</u>
	<u>Pounds</u>	<u>Percent</u>	<u>Percent</u>
Chaves	440.3	22	59
Dona Ana	566.5	19	86
Eddy	410.7	22	69
Hidalgo	445.2	27	74
Lea	145.3	49	70
Luna	440.0	30	73
Quay	105.2	51	4
Roosevelt	152.4	37	7
Sierra	443.5	24	61

1/ Only counties with more than 2,000 acres of cotton harvested in 1949 are shown.

2/ Percentage based on census data for 1949.

NORTH CAROLINA

Table 12.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties

County 1/	Average yield	Coefficient of variation	Cotton acreage harvested as percentage of cropland harvested 2/
	Pounds	Percent	Percent
Anson	278.4	21	31
Beaufort	272.0	40	3
Bertie	306.5	35	13
Bladen	254.8	33	12
Cabarrus	287.0	25	15
Catawba	328.8	26	13
Chowan	299.9	38	9
Cleveland	391.3	24	55
Columbus	257.2	38	4
Cumberland	288.1	27	27
Davie	290.3	23	7
Duplin	283.9	33	7
Edgecombe	288.8	34	19
Franklin	275.5	30	22
Gaston	304.4	25	21
Gates	308.6	32	11
Greene	263.4	41	11
Halifax	312.1	31	28
Harnett	342.6	27	26
Hertford	304.4	36	14
Hoke	340.7	26	47
Iredell	325.3	22	17
Johnston	303.4	30	22
Lee	287.0	27	11
Lenoir	262.6	38	6
Lincoln	361.0	23	32
Martin	298.4	40	7
Mecklenburg	288.8	26	23
Montgomery	253.4	24	8
Moore	241.0	30	5
Nash	305.9	32	21
Northampton	355.6	31	28
Perquimans	302.2	39	7
Pitt	272.0	40	8
Polk	333.6	22	21
Richmond	262.4	25	23
Robeson	305.8	25	32
Rowan	327.8	20	12

(Continued)

NORTH CAROLINA

Table 12.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties - continued

County ^{1/}	Average yield	Coefficient of variation	Cotton acreage har- vested as percentage of cropland harvested ^{2/}
	<u>Pounds</u>	<u>Percent</u>	<u>Percent</u>
Rutherford	317.3	26	36
Sampson	308.0	31	25
Scotland	316.2	30	49
Stanly	314.7	31	7
Union	303.6	27	27
Vance	294.6	26	11
Wake	273.0	33	12
Warren	286.7	28	25
Wayne	280.6	34	17
Wilson	298.5	37	18

^{1/} Only counties with more than 2,000 acres of cotton harvested in 1949 are shown.

^{2/} Percentage based on census data for 1949.

OKLAHOMA

Table 13.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties

County 1/	Average yield	Coefficient of variation	Cotton acreage harvested as percentage of cropland harvested 2/
	Pounds	Percent	Percent
Atoka	104.9	45	10
Beckham	150.3	33	36
Blaine	158.7	36	5
Bryan	115.1	39	22
Caddo	166.6	35	25
Canadian	168.1	36	6
Carter	97.0	45	8
Choctaw	119.4	38	18
Cleveland	154.6	37	6
Coal	112.9	37	22
Comanche	119.4	43	14
Cotton	134.4	47	12
Creek	142.0	52	18
Custer	154.1	43	8
Dewey	136.4	36	3
Garvin	147.1	36	13
Grady	147.3	38	15
Greer	141.4	39	40
Harmon	136.6	40	50
Haskell	124.0	46	19
Hughes	136.3	44	16
Jackson	149.1	47	30
Jefferson	140.4	40	38
Johnston	120.8	37	12
Kiowa	142.4	48	15
Latimer	115.4	49	13
Le Flore	131.9	53	12
Lincoln	128.2	53	6
Logan	136.9	47	4
Love	125.6	40	29
McClain	149.9	34	22
McCurtain	146.0	34	33
McIntosh	139.2	45	31
Marshall	130.0	41	21
Mayes	149.2	50	3
Muskogee	144.5	45	27
Noble	150.7	48	1
Okfuskee	139.5	48	28
Okmulgee	147.3	52	28

(Continued)

OKLAHOMA

Table 13.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties - continued

County ^{1/}	Average yield	Coefficient of variation	Cotton acreage harvested as percentage of cropland harvested ^{2/}
	Pounds	Percent	Percent
Osage	181.2	48	12
Pawnee	174.6	49	14
Payne	159.7	51	9
Pittsburg	130.4	42	24
Pontotoc	120.4	40	7
Pottawatomie	143.0	38	4
Roger Mills	128.4	37	15
Rogers	136.1	49	3
Seminole	120.1	47	8
Soquoyah	138.6	51	6
Stephens	119.2	45	13
Tillman	183.9	42	19
Tulsa	176.0	40	8
Wagoner	154.2	51	21
Washita	165.3	35	25

^{1/} Only counties with more than 2,000 acres of cotton harvested in 1949 are shown.

^{2/} Percentage based on census data for 1949.

SOUTH CAROLINA

Table 14.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties

County ^{1/}	Average yield	Coefficient of variation	Cotton acreage har- vested as percentage of cropland harvested ^{2/}
	Pounds	Percent	Percent
Abbeville	221.6	29	29
Aiken	266.2	24	29
Allendale	238.0	28	28
Anderson	273.5	26	31
Bamberg	230.5	29	27
Barnwell	244.0	29	28
Berkeley	244.2	36	27
Calhoun	300.3	25	31
Cherokee	289.6	26	43
Chester	276.0	31	32
Chostorfield	254.1	25	41
Clarendon	265.8	27	37
Colloton	235.9	40	20
Farlington	270.5	32	31
Dillon	320.9	30	38
Dorchester	265.0	37	26
Edgefield	296.6	26	31
Fairfield	218.8	30	27
Florence	266.3	34	22
Georgetown	222.4	37	10
Greenville	301.0	25	30
Greenwood	215.4	30	23
Hampton	247.5	29	21
Horry	248.7	40	5
Jasper	454.0	37	14
Kershaw	225.0	31	34
Lancaster	250.0	29	30
Laurens	270.7	25	31
Leo	304.7	32	44
Lexington	259.7	28	20
McCormick	201.0	27	32
Marion	299.1	32	28
Marlboro	333.2	30	55
Newberry	267.5	27	22
Oconee	269.1	25	26
Orangeburg	279.2	28	37
Pickens	314.3	25	27
Richland	227.6	32	38

(Continued)

SOUTH CAROLINA

Table 1^h. - Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties - continued

County ^{1/}	Average yield	Coefficient of variation	Cotton acreage har- vested as percentage of cropland harvested ^{2/}
	<u>Pounds</u>	<u>Percent</u>	<u>Percent</u>
Saluda	284.4	31	25
Spartanburg	285.6	21	29
Sumter	292.5	31	45
Union	239.1	22	30
Williamsburg	267.7	31	28
York	285.8	31	32

^{1/} Only counties with more than 2,000 acres of cotton harvested in 1949 are shown.

^{2/} Percentage based on census data for 1949.

TENNESSEE

Table 15.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties

County ^{1/}	Average yield	Coefficient of variation	Cotton acreage har- vested as percentage of cropland harvested ^{2/}
	Pounds	Percent	Percent
Benton	245.2	29	17
Bradley	226.4	27	6
Carroll	301.7	28	33
Chester	293.6	32	42
Crockett	361.3	27	51
Decatur	216.6	31	26
Dyer	367.2	23	39
Fayette	257.6	29	49
Franklin	280.8	32	11
Gibson	334.6	26	36
Giles	255.7	24	14
Hardeman	271.6	30	41
Hardin	226.1	31	26
Haywood	316.4	29	46
Henderson	293.3	28	45
Henry	264.6	27	10
Lake	415.8	29	54
Lauderdale	378.9	28	40
Lawrence	276.2	22	31
Lincoln	280.6	25	18
McMinn	212.8	23	3
McNairy	273.0	31	44
Madison	301.4	27	45
Obion	316.0	26	12
Polk	266.1	27	15
Rutherford	278.9	32	6
Shelby	284.6	30	51
Tipton	358.1	25	51
Wayne	234.8	27	16
Woakley	288.0	28	11

^{1/} Only counties with more than 2,000 acres of cotton harvested in 1949 are shown.

^{2/} Percentage based on census data for 1949.

TEXAS

Table 16.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties

County 1/	Average yield	Coefficient of variation	Cotton acreage harvested as percentage of cropland harvested
	Pounds	Percent	2/ Percent
Anderson	124.3	33	25
Andrews 3/	103.4	49	35
Angelina	185.6	29	34
Atascosa	102.1	47	5
Austin	188.8	32	34
Bailey	153.2	43	43
Bastrop	118.6	33	34
Baylor	142.5	53	17
Bee	134.0	47	15
Bell	152.7	20	44
Bexar	113.5	35	5
Borden	133.0	54	71
Bosque	117.5	22	14
Bowie	144.1	28	47
Brazoria	209.5	51	13
Brazos	197.5	25	61
Briscoe	147.5	45	20
Brooks	92.9	42	36
Brown	109.3	33	11
Burleson	180.9	29	57
Burnet	110.7	19	15
Caldwell	146.4	31	49
Calhoun	194.5	45	55
Callahan	114.7	44	10
Cameron	256.0	35	79
Camp 4/	115.8	32	38
Cass	137.8	27	40
Castro	157.3	56	6
Cherokee	129.2	33	36
Childress	138.7	49	61
Clay	134.9	41	18
Cochran	133.5	54	66
Coke	96.4	29	24
Coleman	119.8	44	15
Collin	185.2	24	47
Collingsworth	147.2	35	49
Colorado	166.1	36	15
Comanche 4/	86.5	27	7
Concho	130.5	39	26

(Continued)

TEXAS

Table 1' .- Average yield and coefficient of variation of annual yields,
1928-50, and cotton acreage harvested as percentage of
cropland harvested, 1949, by counties - continued

County 1/	Average yield	Coefficient of variation	Cotton acreage har- vested as percentage of cropland harvested 2/
	Pounds	Percent	Percent
Cooke	133.2	33	13
Coryell	120.4	22	21
Cottlo	146.1	52	64
Crosby	174.5	49	59
Dallas	171.2	22	37
Dawson	164.9	42	78
Deaf Smith 5/	127.3	86	1
Delta	183.1	32	83
Denton	151.5	27	23
De Witt	128.3	42	23
Dickens	159.1	47	56
Donley	150.4	32	34
Duval	87.8	26	44
Eastland 4/	87.7	30	3
Ellis	177.5	20	69
El Paso	587.6	21	85
Erath	92.0	39	15
Falls	154.4	23	57
Fannin	172.2	33	58
Fayette	150.4	31	33
Fisher 6/	138.7	45	65
Floyd	173.6	46	24
Foard	162.1	46	17
Fort Bend	221.4	38	56
Franklin	129.6	32	53
Freestone	114.4	24	42
Frio 4/	77.5	47	6
Gaines	117.4	40	38
Garza	166.8	52	67
Glasscock 4/	123.3	42	76
Goliad	126.6	41	17
Gonzales	121.1	37	26
Gray 4/	131.9	38	3
Grayson	156.3	33	29
Grogg 4/	121.3	31	31
Grimes	166.4	34	51
Guadalupe	134.5	32	25
Hale	181.5	42	36
Hall	160.7	44	68

(Continued)

TEXAS

Table 16.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties - continued

County 1/	Average yield	Coefficient of variation	Cotton acreage har- vested as percentage of cropland harvested
	Pounds	Percent	2/ Percent
Hamilton	113.1	21	10
Hardeman	141.3	47	34
Harris	169.4	34	6
Harrison	127.3	32	43
Haskell	172.1	46	59
Hays	134.8	33	31
Henderson	122.1	35	33
Hidalgo	224.0	40	59
Hill	160.6	18	72
Hockley	172.0	40	75
Hood 4/	85.6	38	15
Hopkins	127.6	32	65
Houston	153.0	28	40
Howard	154.1	44	83
Hudspeth	416.3	23	87
Hunt	157.4	29	76
Jack 4/	103.3	31	7
Jackson	178.5	44	36
Jim Hogg 4/	86.5	41	47
Jim Wells	131.6	37	27
Johnson	147.8	22	38
Jones	141.4	46	47
Karnes	116.9	37	25
Kaufman	147.0	22	67
Kent	135.6	51	58
King	147.8	51	65
Kleberg	151.8	30	44
Knox	176.4	46	51
Lamar	158.5	31	63
Lamb	202.6	31	60
Lampasas	108.4	23	6
La Salle 4/	68.6	41	9
Lavaca	148.2	30	41
Lee	114.3	33	23
Leon	135.2	26	24
Liberty	195.2	34	8
Limestone	129.8	21	66
Live Oak	131.1	37	23
Lubbock	207.6	43	77

(Continued)

TEXAS

Table 15.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties - continued

County 1/	Average yield Pounds	Coefficient of variation Percent	Cotton acreage har- vested as percentage of cropland harvested 2/ Percent
Lynn	175.8	50	66
McCulloch	121.6	43	13
McLennan	149.4	17	48
Madison	145.6	30	31
Marion 4/	110.1	26	36
Martin	138.4	55	85
Mason 4/	90.7	28	8
Matagorda	213.9	42	24
Maverick	252.1	27	43
Midland	125.5	50	74
Milam	148.7	24	46
Mills 4/	101.8	29	8
Mitchell	145.7	40	72
Montague 7/	118.1	32	14
Morris	128.6	32	36
Motley	145.4	42	66
Nacogdoches	158.4	32	29
Navarro	150.5	17	74
Nolan	147.9	41	49
Nuecos	232.0	24	41
Palo Pinto 4/	102.0	29	12
Panola	135.0	31	51
Parker 4/	97.9	30	8
Parmer	147.1	49	3
Pecos	205.9	38	81
Polk	183.1	37	38
Presidio 4/	284.9	35	63
Rains	121.9	30	63
Red River	148.8	30	61
Reeves	272.2	28	85
Refugio	199.4	46	31
Robertson	165.9	29	50
Rockwall	175.6	25	77
Runnels	137.5	34	42
Rusk	128.6	31	46
Sabine 4/	144.0	31	37
San Augustine	158.6	29	46
San Jacinto	178.9	36	33
San Patricio	236.9	32	54
(Continued)			

TEXAS

Table 16.- Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties - continued

County 1/	Average yield	Coefficient of variation	Cotton acreage harvested as percentage of cropland harvested 2/
	Pounds	Percent	Percent
San Saba	120.5	30	19
Schleicher	145.2	48	44
Scurry	138.7	45	70
Shackelford 4/	109.1	50	7
Shelby	157.9	36	44
Smith	121.4	35	28
Somervell 4/	95.9	27	19
Starr	91.7	33	80
Stonewall	134.0	46	43
Swisher	137.1	49	7
Tarrant	150.5	24	15
Taylor	122.7	38	23
Terry	145.9	40	46
Throckmorton	141.2	60	11
Titus	137.0	32	43
Tom Green	146.1	41	55
Travis	147.6	26	51
Trinity	182.0	31	29
Upshur	112.9	36	31
Uvalde 8/	80.0	58	4
Van Zandt	122.5	32	50
Victoria	176.0	43	44
Walker	153.0	29	42
Waller	180.7	34	13
Ward	221.2	38	85
Washington	168.7	27	39
Webb 4/	71.1	39	22
Wharton	222.2	42	47
Wheeler	141.2	34	25
Wichita	177.2	33	9
Wilbarger	190.3	37	33
Willacy	235.6	34	82
Williamson	166.1	19	59
Wilson	104.6	45	7
Wise 4/	109.4	32	5
Wood	123.3	36	31
Yoakum	113.7	42	30

(Continued)

TEXAS

Table 16 - Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties - continued

County <u>1/</u>	Average yield	Coefficient of variation	Cotton acreage har- vested as percentage of cropland harvested <u>2/</u>
	Pounds	Percent	Percent
Young	116.6	42	9
Zapata <u>4/</u>	69.0	29	47
Zavala	119.1	77	40

1/ Only counties with more than 2,000 acres of cotton harvested in 1949 are shown. Less than this acreage was harvested in all unlisted counties except Dimmit which is not shown because 5 or more years of yields were missing.

2/ Percentage based on census data for 1949.

3/ Average yield and coefficient of variation based on data for 1928-44, 1947, and 1948.

4/ Average yield and coefficient of variation based on data for 1928-48.

5/ Average yield and coefficient of variation based on data for 1928-42, 1944, and 1946-48.

6/ Average yield and coefficient of variation based on data for 1928-48, and 1950.

7/ Average yield and coefficient of variation based on data for 1928-49.

8/ Average yield and coefficient of variation based on data for 1928-45, 1947, and 1948.



Table 17.-Average yield and coefficient of variation of annual yields, 1928-50, and cotton acreage harvested as percentage of cropland harvested, 1949, by counties

County ^{1/}	Average yield	Coefficient of variation	Cotton acreage har- vested as percentage of cropland harvested ^{2/}
	<u>Pounds</u>	<u>Percent</u>	<u>Percent</u>
Brunswick	271.3	28	9
Greensville	317.3	33	19
Mecklenburg	284.1	23	5
Nansemond	337.2	32	6
Southampton	331.5	31	8
Sussex	285.7	33	6

^{1/} Only counties with more than 2,000 acres of cotton harvested in 1949 are shown.

^{2/} Percentage based on census data for 1949.